

AMENDMENTS TO THE CLAIMS

Please amend the claims to read as follows:

1. (original) A geotechnical barrier, the barrier including
a first barrier layer;
a second barrier layer overlying the first barrier layer and spaced therefrom,
the first and second barrier layers defining, at least in part, a fluid passageway having
an inlet and an outlet; and
fluid displacement means connected to the outlet and operable to provide a
negative pressure at the outlet with respect to the pressure at the inlet, thereby to
displace a fluid through said fluid passageway from the inlet to the outlet.
2. (original) A geotechnical barrier as claimed in claim 1, which includes spacing means
for spacing the first barrier layer from the second barrier layer.
3. (original) A geotechnical barrier as claimed in claim 2, in which the spacing means
comprises a drainage layer of at least one non-synthetic material.
4. (original) A geotechnical barrier as claimed in claim 2, in which the spacing means is
of a geosynthetic material.
5. (original) A geotechnical barrier as claimed in claim 4, in which the spacing means
comprises a cusped membrane of a plastics material.
6. (currently amended) A geotechnical barrier as claimed in ~~any one of the preceding~~
~~claims~~ claim 1, in which the first and second barrier layers comprise non-synthetic
geotechnical materials.
7. (currently amended) A geotechnical barrier as claimed in ~~any one of claims 1 to 5~~
claim 1, in which the first and second barrier layers comprise geosynthetic materials.
8. (original) A geotechnical barrier as claimed in claim 7, in which at least one of the
first and second barrier layers is a geocomposite barrier layer.

9. (original) A geotechnical barrier as claimed in claim 8, in which the geocomposite layer comprises a geocomposite clay liner, the clay layer thereof being in fluid communication with the fluid passageway.
10. (currently amended) A geotechnical barrier as claimed in ~~any one of the preceding claims~~ claim 1, in which the fluid comprises air.
11. (currently amended) A geotechnical barrier as claimed in ~~any one of claims 1 to 9~~ claim 10, which includes entrainment means connected at the inlet of the fluid passageway for entraining a substance into an air stream provided at the inlet, to provide a fluid for displacement through the fluid passageway comprising a mixture of air and the said substance.
12. (original) A geotechnical barrier as claimed in claim 11, in which the substance is water.
13. (currently amended) A geotechnical barrier as claimed in ~~any one of the preceding claims~~ claim 1, which includes a temperature control means for controlling the temperature of the fluid introduced at the inlet of the fluid passageway.
14. (currently amended) A geotechnical barrier as claimed in ~~any one of the preceding claims~~ claim 1, in which the outlet is connected to a disposal means for disposing of the fluid and any contaminants entrained therein extracted at the outlet.
15. (original) A method for constructing and operating a geotechnical barrier, the method including
 - providing a first barrier layer;
 - providing a second barrier layer overlying the first barrier layer and spaced therefrom, the first and second barrier layers defining, at least in part, a fluid passageway having an inlet and an outlet; and
 - providing a negative pressure at the outlet with respect to the inlet, thereby displacing a fluid through said fluid passageway from the inlet to the outlet.

16. (original) A method as claimed in claim 15, which includes providing spacing means for spacing the first barrier layer from the second barrier layer.
17. (original) A method as claimed in claim 16, in which the spacing means comprises a drainage layer of at least one non-synthetic material.
18. (original) A method as claimed in claim 17, in which the spacing means is of a geosynthetic material.
19. (original) A method as claimed in claim 18, in which the spacing means comprises a cusped membrane of a plastics material.
20. (currently amended) A method as claimed in ~~any one of claims 15 to 19~~ claim 15, in which the first and second barrier layers comprise non-synthetic geotechnical materials.
21. (currently amended) A method as claimed in ~~any one of claims 15 to 19~~ claim 15, in which the first and second barrier layers comprise geosynthetic materials.
22. (original) A method as claimed in claim 21, in which at least one of the first and second barrier layers is a geocomposite barrier layer.
23. (original) A method as claimed in claim 22, in which the geocomposite layer comprises a geocomposite clay liner, the clay layer thereof being in fluid communication with the fluid passageway.
24. (currently amended) A method as claimed in ~~any one of claims 15 to 23~~ claim 15, in which the fluid comprises air.
25. (currently amended) A method as claimed in ~~any one of claims 15 to 24~~ claim 24, which includes entraining a substance into an air stream provided at the inlet, to

provide a fluid for displacement through the fluid flow passageway comprising a mixture of air and the said substance.

26. (original) A method as claimed in claim 25, in which the substance is water.
27. (currently amended) A method as claimed in ~~any one of claims 15 to 26~~ claim 15, which includes controlling the temperature of the fluid introduced at the inlet of the fluid passageway.
28. (currently amended) A method as claimed in ~~any one of claims 15 to 27~~ claim 15, which includes the step of disposing of the fluid and any contaminants entrained therein extracted at the outlet.
29. (original) A geosynthetic barrier including
 - a first geosynthetic barrier layer;
 - a second geosynthetic barrier layer;
 - spacer means intermediate the first and second barrier layers to space the said barrier layers apart, the first and second barrier layers thereby defining a fluid passageway and the fluid passageway having an inlet and an outlet; and
 - fluid displacement means for displacing a fluid through said fluid passageway from the inlet to the outlet.
30. (original) A geosynthetic barrier as claimed in claim 29, in which the first barrier layer comprises a geosynthetic membrane.
31. (original) A geosynthetic barrier as claimed in claim 30, in which the second barrier layer comprises a geosynthetic membrane.
32. (original) A geosynthetic barrier as claimed in claim 30, in which the second barrier layer comprises a geocomposite clay liner comprising a second geosynthetic membrane and a clay liner, the clay liner being positioned intermediate the first and second geosynthetic membranes and the spacer means being positioned intermediate

the first membrane and the clay liner to space the said membranes apart, thereby defining the fluid passageway between the first membrane and the clay liner.

33. (currently amended) A geosynthetic barrier as claimed in claim 31 ~~or claim to 32~~, in which the second geosynthetic membrane overlies the first geosynthetic membrane.
34. (original) A geosynthetic barrier as claimed in claim 33, in which the first and second geosynthetic membranes are peripherally sealed to each other.
35. (currently amended) A geosynthetic barrier as claimed in ~~any one of claims 29 to 34~~ claim 29, in which the spacing means comprises a drainage layer of at least one non-synthetic material.
36. (currently amended) A geosynthetic barrier as claimed in ~~any one of claims 29 to 34~~ claim 29, in which the spacing means is of a geosynthetic material.
37. (original) A geosynthetic barrier as claimed in claim 36, in which the spacing means comprises a cusped membrane of a plastics material.
38. (currently amended) A geosynthetic barrier as claimed in ~~any one of claims 29 to 37~~ claim 29, in which the fluid displacement means is connected to the outlet of the fluid passageway and is operable to provide a negative pressure at the outlet with respect to the pressure at the inlet, thereby to displace the fluid through said fluid passageway from the inlet to the outlet.
39. (currently amended) A geosynthetic barrier as claimed in ~~any one of claims 29 to 38~~ claim 29, in which the fluid comprises air.
40. (currently amended) A geosynthetic barrier as claimed in ~~any one of claims 29 to 39~~ claim 39, which includes entrainment means connected at the inlet of the fluid passageway for entraining a substance into an air stream provided at the inlet, to provide a fluid for displacement through the fluid passageway comprising a mixture of air and the said substance.

41. (original) A geosynthetic barrier as claimed in claim 40, in which the substance is water.
42. (currently amended) A geosynthetic barrier as claimed in ~~any one of claims 29 to 41~~ claim 29, which includes a temperature control means for controlling the temperature of the fluid introduced at the inlet of the fluid passageway.
43. (currently amended) A ~~geosynthetic~~ geosynthetic barrier as claimed in ~~any one of claims 29 to 42~~ claim 29, in which the outlet is connected to a disposal means for disposing of the fluid and any contaminants entrained therein extracted at the outlet.
44. (original) A method for constructing and operating a geosynthetic barrier, the method including
 - providing a first geosynthetic barrier layer;
 - providing a second geosynthetic barrier layer;
 - providing spacer means intermediate the first and second barrier layers to space the said barrier layers apart, the first and second barrier layers thereby defining a fluid passageway and the fluid passageway having an inlet and an outlet; and
 - displacing a fluid through said fluid passageway from the inlet to the outlet.
45. (original) A method as claimed in claim 44, in which the first barrier layer comprises a geosynthetic membrane.
46. (original) A method as claimed in claim 45, in which the second barrier layer comprises a geosynthetic membrane.
47. (original) A method as claimed in claim 45, in which the second barrier layer comprises a geocomposite clay liner comprising a second geosynthetic membrane and a clay liner, the clay liner being positioned intermediate the first and second geosynthetic membranes and the spacer means being positioned intermediate the first membrane and the clay liner to space the said membranes apart, thereby defining the fluid passageway between the first membrane and the clay liner.

48. (original) A method as claimed in claim 46 ~~or claim to 47~~, in which the second geosynthetic membrane overlies the first geosynthetic membrane.
49. (original) A method as claimed in claim 48, in which the first and second geosynthetic membranes are peripherally sealed to each other.
50. (currently amended) A method as claimed in ~~any one of claims 44 to 49~~ claim 44, in which the spacing means comprises a drainage layer of at least one non-synthetic material.
51. (currently amended) A method as claimed in ~~any one of claims 44 to 49~~ claim 44, in which the spacing means is of a geosynthetic material.
52. (original) A method as claimed in claim 51, in which the spacing means comprises a cusped membrane of a plastics material.
53. (currently amended) A method as claimed in ~~any one of claims 44 to 52~~ claim 44, in which the fluid is displaced by means of a fluid displacement means connected to the outlet of the fluid passageway, the fluid displacement means being operable to provide a negative pressure at the outlet with respect to the pressure at the inlet, thereby to displace the fluid through said fluid passageway from the inlet to the outlet.
54. (currently amended) A method as claimed in ~~any one of claims 44 to 53~~ claim 44, in which the fluid comprises air.
55. (currently amended) A method as claimed in ~~any one of claims 44 to 54~~ claim 54, which includes the step of entraining a substance into an air stream provided at the inlet, to provide the fluid for displacement through the fluid passageway comprising a mixture of air and the said substance.
56. (original) A method as claimed in claim 55, in which the substance is water.

57. (currently amended) A method as claimed in ~~any one of claims 44 to 56~~ claim 44, which includes the step of controlling the temperature of the fluid introduced at the inlet of the fluid passageway.
58. (currently amended) A method as claimed in ~~any one of claims 44 to 57~~ claim 44, which includes the step of disposing of the fluid and any contaminants entrained therein extracted at the outlet.
59. (original) A method for flushing contaminants from a geotechnical barrier comprising at least two barrier layers and having a fluid passageway defined therebetween, the method including displacing a fluid through said fluid passageway to entrain contaminants that have penetrated one of the barrier layers in a fluid flowstream.
60. (original) A method for hydrating a clay liner of a geotechnical barrier comprising first and second barrier layers one of which includes a clay liner, the method including displacing a hydrating fluid through a fluid passageway defined between the clay liner and the other of the barrier layers.